

1 IN THE SPECIFICATION

2 1. Replace the paragraph beginning on page 1, line 11 with the following paragraph:

3 Logic circuits are electronic circuits that perform some logical operation or group of
4 logical operations on a set of digital input data to provide some desired digital output. For
5 example, a simple logic circuit may perform an AND operation on input data comprising three
6 logic level signals to provide ~~an~~ a single output comprising the logical signal resulting from the
7 AND operation. These types of logic circuits are included in many different types of devices
8 from control circuits for mechanical devices, to communications devices, to data processor chips.
9 In many cases the logical operations may be very complicated and require complicated logic
10 circuitry.

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12 2. Replace the paragraph beginning on page 2, line 4 with the following paragraph:

13 After determining the high-level logic operations required of the final logic circuit, logic
14 circuit design involves determining an arrangement of circuit elements to actually perform the
15 desired logical operations. The step of determining the actual circuit elements and arrangement
16 of circuit elements to provide the desired logical operations is referred to as logic synthesis.
17 Logic synthesis ~~my~~ may be performed by defining a set or library of available circuits and then
18 identifying an arrangement of these available circuits which is capable of consistently providing
19 the desired logical operation. Thus, logic synthesis comprises an optimization problem
20 constrained by the library of available circuits available for synthesis, by the required logical
21 operation to be performed by the final circuit, and perhaps by other constraints dictated by the
22 designer. Various software tools have been developed to perform logic synthesis. These logic

1 synthesis tools simply provide one or more solutions to the optimization problem, based upon a
2 library of available circuits and other constraints provided by the designer.

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4 3. Replace the paragraph beginning on page 7, line 6 with the following paragraph:

5 Defining the logic synthesis block for use in logic synthesis according to the invention
6 preferably includes defining the largest practical dynamic AND/OR circuit which may be used in
7 the technology in which the circuit is to be implemented. This dynamic circuit is controlled by a
8 single reset signal. The largest practical dynamic AND/OR circuit may, for example, comprise a
9 four high and four wide dynamic AND/OR circuit. This four high and four wide AND/OR
10 circuit will be referred to further in this disclosure and shown in the drawings as a "4A4O"
11 circuit.

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13 4. Replace the paragraph beginning on page 7, line 13 with the following paragraph:

14 Figures 2 and 3 show examples of dynamic 4A4O circuits. Each of these circuits is
15 capable of receiving up to four input signals at each of four groups of N-type devices. The first
16 group of four N-type devices is shown in dashed box 21 in Figures 2 and 3, while the remaining
17 groups are shown at dashed boxes 22, 23, and 24. The inputs of the devices included in a single
18 group 21, 22, 23, or 24 are ANDed and then ORed with inputs at the other groups. Each circuit
19 includes a reset device 25 and ~~and~~ output inverter 26 and feedback device 27. Figure 2 shows an
20 unfooted 4A4O circuit while Figure 3 shows a 4A4O circuit including a footer device 28 which
21 also receives the reset signal. 4A4O circuits are preferred for use as the logic synthesis block
22 according to the invention because it is possible to produce a large number of logical
23 combinations from the circuit. The 4A4O logic block also takes advantage of the maximum

- 1 practical stack height, that is, the maximum number of devices that may be stacked between V_{dd}
- 2 and ground, which may currently be implemented.